



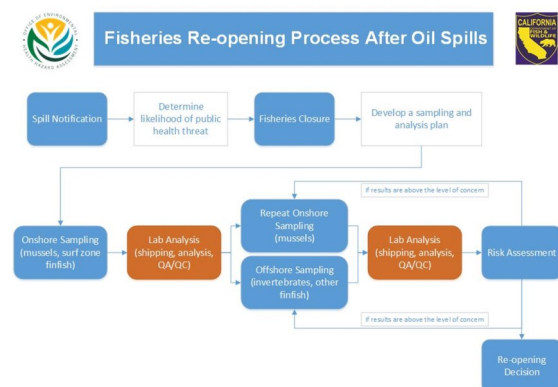
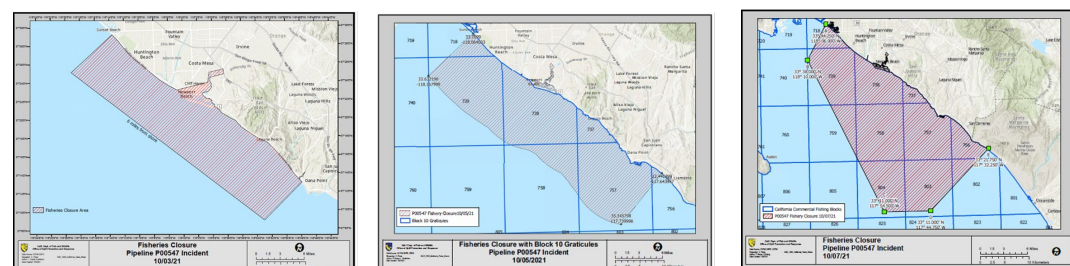
2021 SOUTHERN CALIFORNIA OIL SPILL SEAFOOD SAFETY ASSESSMENT

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Background

Pipeline P00547 Incident—October 2021

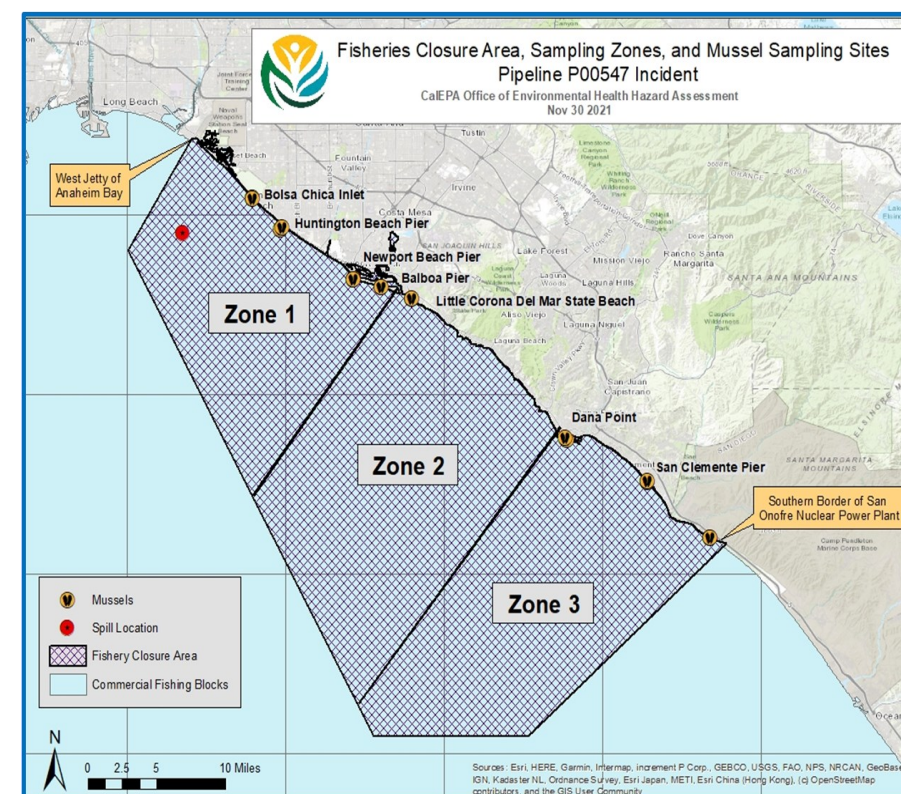
- The initial spill location was reported to be 3 miles off Newport Beach, California.
- A fisheries closure was established by the California Department of Fish and Wildlife (CDFW) on October 3rd (left image below), modified on the 5th (center image), and again on the 7th (right image).
- The minimum spill volume was estimated to be 24,696 gallons
- Final closure boundaries included 43 miles of coastline, 23 miles offshore at the widest point and approximately 650 square miles of marine waters.



Contact Information

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Onshore Sampling



Sampling methods

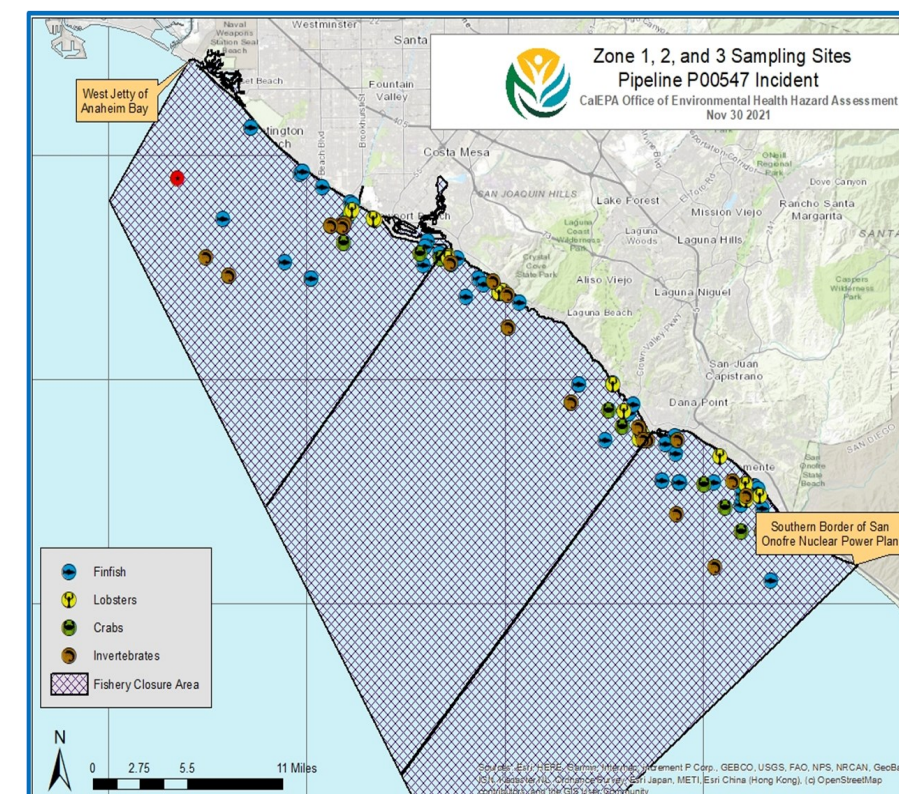
- Hand
- Hook and line
- Scoop net

Species

- Mussels (n = 417)
- Surf zone finfish (n = 99)



Offshore Sampling



Sampling methods

- Hook and line
- Trawl
- Trap
- Divers

Species

- Offshore finfish (n = 140)
- Offshore invertebrates (n = 192)



Risk Assessment

- Polycyclic Aromatic Hydrocarbons (PAHs) are the chemicals of concern.
- Cancer is the most sensitive endpoint.
- Benzo[a]pyrene (BaP) is the index chemical.
- Carcinogenic PAHs are converted to BaP equivalents (BaPE) using toxicity equivalence factors (TEQs).
- Total Σ BaPE for each sample is compared to the OEHHA level of concern (LOC) of 27 ppb Σ BaPE.

- Development of **LOC, cancer**:
 - Chemical tissue concentration (as Σ BaPE, ppb, w/w) =

$$\frac{(\text{Risk Level} \times \text{BW} \times \text{AT})}{(\text{CSF} \times \text{CR} \times \text{ED} \times \text{ASF})}$$

Risk Level = 1×10^{-5}

BW = body weight (12.6 kg; 1-3 year old child – highest combination of sensitivity to cancer and consumption rate for a 2 year ED window)

AT = averaging time (70 yrs; presumed lifetime)

CSF = cancer slope factor ($1.7 \text{ mg/kg-day}^{-1}$ for BaPE)

CR = consumption rate (14.6 g/day ; 1-3 year old child)

ED = exposure duration (2 years)

ASF = age sensitivity factor (30, based on 1-3 year old child)

Conclusions

- No samples exceeded the LOC.
- Fisheries were reopened on 11/30/21.
- The final report was released in January 2022:
<https://oehha.ca.gov/media/downloads/fish/report/pipelinep00547incidentreport.pdf>